



Flag 3

Laser Distance Meter

User Manual

Overview

AdirPro Flag 3 laser distance meter measures up to 328' (100m) with $\pm 1/16"$ (1.5mm) accuracy, integrates a tilt sensor, and has an HD full-color screen. The screen is specially designed for professional users. It's powered on a li-ion battery, which greatly enhances battery usage life, and can last for several years. In addition, its green background color makes it visually pleasing to look at

mOS V1.5, is an innovated and patented measuring system, which has a vivid colorful screen, strong interactive interface, and professional measuring functions. The various auxiliary functions and unique personal settings provide an excellent measuring experience.


The built-in Bluetooth module transfers data from the Flag 3 to Android and iOS devices in real-time, and enables remote control and photo-distance association.

The Flag 3 has the perfect combination of an ergonomic and modern design that gives it a beautiful look and comfortable grasp. The Flag 3 is a leading laser distance meter heralding a new era of professional measurement.




Power on and off

Power on

Long press  to power on the instrument and activate the laser. The single measuring interface will be displayed on the screen.

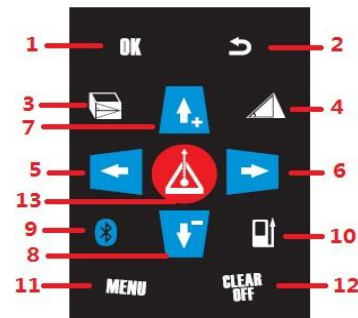
Power off Manually

Long press  to power off the instrument.
Power off Automatically

The instrument will be power off automatically after three minutes of inactivity.


Keypad List

1. OK / Confirm
2. Return / Cancel
3. Area/Volume/Pythagorean
4. Tilt / Auto Level / Auto Height / Triangle area
5. Go Left
6. Go Right
7. Go up/ Addition(+)
8. Go down/Subtraction(-)
9. Bluetooth
10. Reference Point
11. Menu
12. Clear off / Power off
13. Power on / Measurement

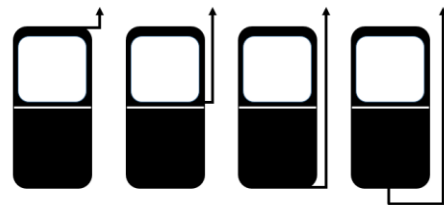


Reference Setup



The default reference setting: the bottom of the instrument.

Press  to switch the reference point between the top, bottom, tripod, and end-piece of the instrument. There is a beep warning tone when a reference point is changed. The reference point will return to default every time when the unit is powered off.


I.E. the measuring reference point is from the bottom of the instrument every time when it's powered on.



Single Measurement

Press  to activate the laser. Aim the laser at the object which is to be measured and press  again to take measurement. Results will be seen on the screen's display immediately.


Continuous Measurement (max/min distance)


Long press  to activate continuous measurement. Under this mode minimum or maximum distance can be measured from a fixed measuring position by sweeping ideal points.

Note: Continuous measurement will stop after 5 minutes.

Area Measurement



Press  once to activate area measuring function. The symbol  will appear on the display.


Press  to take the first side distance measurement (e.g. length).


Press  again to take the second side distance measurement (e.g. width).

The results of length, width, perimeter, and area will be seen on the display.

Volume Measurement

Press  twice to activate the volume measuring function. The symbol  will appear on the display.


Press  to activate the laser, and aim at the target. Press again to take the first side distance


measurement (e.g. Length). Then, respectively press  to measure the width and height. The resulting volume will be display in the summary line.

Addition/Subtraction

Distance

1. Take a measurement of a distance.


2. Press the addition button . The next measurement's data will be added to the former one.


3. Press the subtraction button . The next measurement's data will be subtracted from the former one.

This operation can be repeated. The results will be displayed in the main area of the screen.

Area/Volume

1. First take a measurement of area or volume.

2. Press the addition button , and measure the second area/volume. This measurement will be added to the former one.

3. Press the subtraction button , and measure the second area/volume. This measurement will be subtracted from the former one.

Indirect Measurement





This device can measure distance to inaccessible points, such as the distance to a wall which is blocked by obstacles or the height of a tree, using a trigonometric function. To ensure measuring accuracy, indirect measurements should be based on the following conditions:

- (1) The measuring points of the object which is to be measured should be on the same horizontal or vertical line.
- (2) Put the device at a fixed but horizontally and vertically rotary tripod.

Indirect Measurement: Pythagoras Two Points

As shown (Figure A), if a user wants to measure the height of the pink line, he can use Pythagoras Two

Points to calculate the height.

1. Press  three times. The symbol  will appear on display.
2. Press  to activate the laser and aim at the point which is to be measured.
3. Press  again to take the first measurement (1), and then again to take the second measurement (2).
4. The height of the pink line (third side of triangle), first, and second distance values will be seen on display.

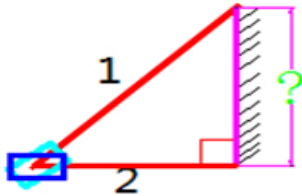






Figure (A)

Note:

- (1) The device will automatically determine the longer distance as the triangle's hypotenuse, and the shorter distance as the right-angle side.
- (2) When measuring the right-angle side (Distance 2 in Figure A), user should ensure laser beam is right-angled to the target line.

Indirect Measurement: Pythagoras Three Points

As shown in Figure (B), if the user wants to measure the height of the pink line, he can use Pythagoras Three Points function to calculate the height.

1. Press  four times. The symbol  will appear on the display.
2. Press  to activate the laser and aim at the point which is to be measured.
3. Press  again to take the measurements from first (1), second (2), and to third (3) points.
4. The height of the pink line, first, second, and third distance points' values will be seen on display.

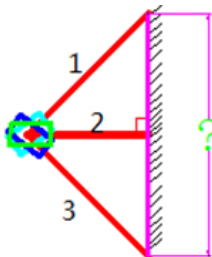





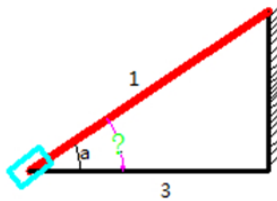
Figure (B)

Note:

- (1) The device will automatically determine the longer distance as triangle's hypotenuse, and shorter distance as the right-angle side.
- (2) When measuring the right-angle side (Distance 2 in Figure B), the user should ensure that the laser beam is at a right-angle to the target line.

Angle Measurement

Press button . The symbol  will appear in the function field. As shown in Figure (C). Press  to measure the tilt and the distance.



Figure(C)

Auto Horizontal Measurement

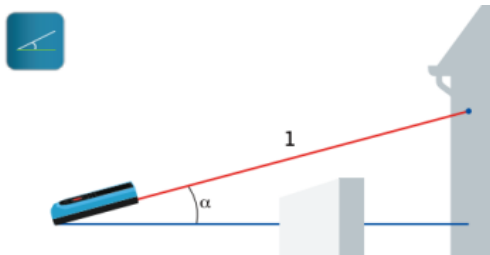





Figure (D)

Press  twice. The symbol  will appear on the display. Press  to measure the tilt and hypotenuse distance (1). The results of tilt, distance of hypotenuse, and two right-angle sides will be seen on display. Refer to Figure (K).

Auto Height Measurement

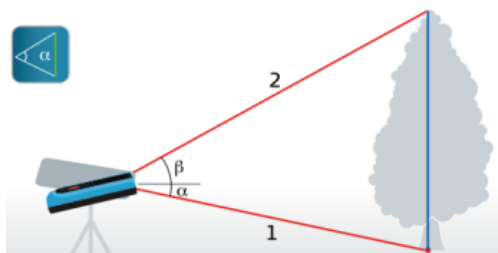





Figure (E)

Press  three times. The symbol  will appear on the display. Press  button to measure the distance to the top of the object, bottom of the object, distance of two hypotenuse, and the height of object. The results will be seen on the display. Refer to Figure (E).

Triangle Area Measurement

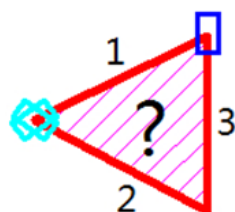





Figure (F)


As shown in Figure (F), press  four times. The symbol  will appear in the function area. Press  button to measure the three sloping sides respectively. The area of triangle will be displayed in the result bar.

Bluetooth

Flag 3 laser distance meter's Bluetooth function is used for interactions with Android and iOS devices on their corresponding App. It can be used for data transfer, remote control, and more. The following information is a guide to how to enable the Bluetooth function. For more information and details on the function and operating steps, please refer the Android or iOS App.

Users can go to Bluetooth functions by the following two methods:


(1) Shortcut

Long press  until the Bluetooth icon flickers on the status bar. This means Bluetooth is enabled and waiting for connection.

(2) Menu


Press **MENU**. Use the arrow keys to navigate and select Bluetooth. Then press **OK**.

Press  or  to switch the Bluetooth function on and off. Press **OK** to save the setting, or

press  to quit the setting without saving.

Bluetooth APP downloading address: www.AdirPro.net


Menu



Press  to go to the function menu, which lists all of Flag 3's functions by 3x3 icons per page.

Use the arrow keys to select the desired function.



Staking out Measurement

Press . Use the arrow keys to navigate and select "Loft", and then press .

Press  or  to move the cursor and select the corresponding number.



Press  or  to increase/decrease the value until the desired distance is reached.



Press  and start Staking Out measurement.


Move the instrument along the staking out line. The screen will show the distance in real-time. When approaching the preset distance within 0.1m, the instrument will start buzzing. The status bar will show  or  icon to indicate which is the right direction to reach the appointed distance.

Timer

Press . Use the arrow keys to navigate and select "Timer", and then press .

Press  or  to move cursor and select the corresponding number.








Press  or  to increase/decrease the exact time value.

Press  and start timing the measurement.

The countdown (e.g. 10, 9, 8...) is displayed and the last 5 seconds are counted down with a beep. After the last beep the measurement is taken and the value is displayed.



Historical Data

1. View historical record:





Press  and use the arrow keys to navigate. Select "Record" to call the function up. Press  or  to select the measurement type, and press  to enter the record of this type. Press  or  to select one record and press  to read the details. The information displayed will include data type (locked/unlocked), date, time, measurement function, measurement types, corresponding result, and, additional information.

2. Delete historical record:

1) Delete by batch

When viewing historical data, when a measurement type is selected, the user can press  and then press  to delete all the historical records belonging to this measurement type.

2) Delete one by one

Press  or  to browse the records. Next press , and then  to delete the selected record.

3. Historical data lock / unlock

Usually, the instrument saves a limited number of measurement data. It will automatically delete the oldest data when new data comes in. The “data locking” function enables the user to save data permanently unless the user deletes it manually from the memory.

Press or to browse the records. Then, press to lock and unlock the record.

Thermometer

Press **MENU**. Use the arrow keys to navigate and select “thermometer”. Press **OK**.

The current temperature of instrument in the environment will be displayed on the screen.

Press to return to the menu.

Level

Press **MENU**. Use the arrow keys to navigate and select “level”. Press **OK**.

Three mercury columns represents the X, Y and 45° axes. The degree value is also displayed.

Press to return to the menu.

Bubble

Press **MENU**. Use the arrow keys to navigate and select “Bubble”. Press **OK**.

Press or to select “Yes” or “No”. This will switch the leveling bubble on and off.

Press **OK** to save the setting or press to exit without saving.

Measuring Unit

Press **MENU**. Use the arrow keys to navigate and select “Unit”. Press **OK**.

Press or to change the distance unit between m, ft., in, and ft. + in. Press **OK** to save the setting, or press to exit without saving.

Note: System default measuring unit is m.

Angle Unit

Press **MENU**. Use the arrow keys to navigate and select “Angle-unit”. Press **OK**.

Press or to select the desired unit: +/- 0.0° or 0.00%.

Press **OK** to save the setting, or press to exit without saving.

Note: System default angle unit is: +/- 0.0°






Language

Press **MENU**. Use the arrow keys to navigate and select “Language”. Press **OK**.

Press or to select a language, either “Chinese” or “English”.

Press **OK** to save the setting, or press to exit without saving.




Constant

Press **MENU**. Use the arrow keys to navigate and select “Const”. Press **OK**.
Press  or  to move the cursor and select corresponding number.
Press  or  to increase/decrease the exact value.
Press **OK** to save the setting, or press  to exit without saving.

Note: All measuring results will be added or subtracted from the constant; tolerance will be calculated into the result.

Beep

Press **MENU**. Use the arrow keys to navigate and select “Beep”. Press **OK**.

Press  or  to select “Yes” or “No” to switch the beep function on or off.
Press **OK** to save the setting, or press  to exit without saving.






G-Sensor

Press **MENU**. Use the arrow keys to navigate and select “G-sensor”. Press **OK**.




The built-in tilt sensor can be automatically calibrated. Calibration requires two measurements on a level surface.

1. Put the instrument on a flat surface, then press **OK** button.
2. Rotate 180°, then press **OK**. The sensor will then be calibrated.

Date Settings




Press **MENU**. Use the arrow keys to navigate and select “Date Setting”. Press **OK**.
Press  or  to select the corresponding place.
Press  or  to increase/decrease the exact value.
Press **OK** to save the setting, or press  to exit without saving.

Brightness

Press **MENU**. Use the arrow keys to navigate and select “Brightness”. Press **OK**.
Press  or  to adjust the brightness.
Press **OK** to save the setting, or press  to exit without saving.


Reset

Press **MENU**. Use the arrow keys to navigate and select “Reset”. Press **OK**.

Press  or  to select “Yes” or “No” to confirm whether you’d like to reset the instrument.
Press **OK** to reset, or press  to exit without saving. After resetting, all personal settings will be deleted and will revert back to the default settings.

About Us

Press **MENU**. Use the arrow keys to navigate and select “About us”. Press **OK**.

There is some relevant information about software, such as software version number, ownership, and so on. Go back to the menu system by clicking .

Troubleshooting

Code	Cause	Corrective Measure
204	Calculation error	Refers to user menu, repeat the procedures
208	Currency for LD out of range	If cannot be solved after several times of reboot, meaning the instrument is out of order, please contact your distributor.
220	Battery low	Replace with new batteries
252	High temperature	Keep instrument within 32 °F ~ 104 °F
253	Low temperature	Warm up the device to meet work conditions
255	Received signal too weak, measurement time too long	Use target plate or change a good reflection
256	Received signal too strong	Target too reflective, use target plate or do not aim at strong light objective
261	Measure value over range	Please take measurements within its range
500	Hardware error	Switch on/off the device several times. If the symbol still appears, your instrument is defective. Please contact your distributor.

Function List and Specifications

Specification	Flag 3
Typical measuring range	0.17'-328' (0.05m-100 m)
Typical measuring accuracy	± 1/16" (1.5 mm)
Measuring units	m/in/ft/ft+in
Area/Volume/Pythagoras/Add/Subtract	✓
Tilt/Auto level/Auto Height/Staking out	✓
Beep	✓
Bluetooth	✓
mOS	V1.5
Historical Data	1,000 sets
Button Class	Metal dome array
Button Life	500,000times
Button Type	Membrane keyboards
Battery Type	Lithium Battery
Battery Life	15,000 measurements
Laser class	Class 2M II
Laser type	635 nm, < 1mW
Ingress protection	IP65
Operating temperature	0°C~40°C
Storage temperature	-10°C~60°C
LCD Resolution	QVGA (320*240)
USB	Online upgrade, Data export
Auto laser off	30seconds
Auto instrument off	180 seconds
Dimensions	4.92" x 2.09" x 1.30" (125 mm x 53 mm x 33 mm)
Weight	5.64 oz (160g)

Note:

1. Range: The maximum measuring range is determined by the version of the meter. Exact measuring

range for the laser distance meter is shown on the gift box. In poor daylight or reflection conditions, please use the target plate or a better reflective surface.

2. Accuracy: In optimal conditions (good target surface properties and room temperature) the measuring range is up to 328' (100m). In unfavorable conditions (intense sunshine, poor reflectivity in target surface – i.e. a black surface, or high temperature variations) the deviation over the entire 328' may increase.

Warranty

1. Maintenance

Do not use aggressive cleaning agents or solutions. Remove the battery before a long period of non-use.

2. Warranty

The AdirPro Flag 3 comes with a one year warranty from AdirPro.

More detailed information is available at www.adirpro.com

3. Contact

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